NRO REVIEW COMPLETED

APPENDIX I REVISION NO. II

	ECP NO.	DESCRIPTION	TARGET	PRICE	CEILING PRICE
STAT	22-1-1				
	22-2-1				
·	22-3-1				
*	22-4-1				
	22-5-1				
	22-6-1	Improved Distance Measuring for ARC-50			
	22-7-2	ARC-50 Ground Stations			
	22-8-1	Liquid Oxygen System Installation in Vehicles #132 and #133			
	22-9-2	Lightning Tests			
· ·	22-10	Suit Vent Air System Regulator			
	22-11-1	Oxygen System Balance Valve			
	22-12-1	A-12 Parachute Improvement Program			
	22-13-1	Periscope Improvement Program			
OT 4 T	22-14	Revised INS Rack Installation			
STAT	22-15				
	22-16	Oxygen System Low Pressure Warning Light			
	22-17	Replace Control Stick Grips on A-12 and AF-12			
	22-18-1	Retrofit LOX System - A-12's (Already accomplished on #132 and #133)			
STAT	. 22-19				

^{*} Redetermined Item.

 -	PCD NO	DESCRIPTION	TARGET	PRICE	CEILING PRICE	
STAT	ECP NO. 22-20					-
	22-21					
	22-22-1	Tacan in all A-12's except #121 and 124. See ECP 22-75 for #124				
STAT	22-23					
	22-24	Drag Chute Deploy Handle				
•	22-25	Aero-Med Instrument				
	2 2-2 6	Periscope Projector Film Destruct System				
	22-27-1	Map Case Destruct System				
STAT	22-28-1	,				
	22-29-1	Pilot Voice Recorder				
	22-30-1	Compressor Inlet Pressure Indicating System				
(22-31-1	SR-3 Improved Gyro Reference Heading System Except #124. See ECP 22-74.				
at's	22-32-1	Improved Fire Warning System				
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	22-33	Structural Strength				
*/	22-34	Chine Mod and Refrig.				
	22-35-1	All Altitude Fuel Quantity System				
.*	22-36-1	Airplane Control System Checkout Cart (4)				
••	22-37-1	World Wide Capability Flight Tests				
	22-38	Increased Fuel Quantity Study				
	22-39	New Servos-Inter-System Leakage				
	55-740	Dual Initiator Qual.				
	22-41	Stall Warning System				
	22-42	Six Additional Cap Nap (LeCroix)				
(<u>.</u> .		* Redetermined Item.			.a	

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(, , ,) T ^ T	ECP NO.	DESCRIPTION	TARGET	PRICE	OBLINING TRIDE
STAT	22-43-1	Replace and install new Control Unit			
	22-44	Improve Pilot Fuel Control Capability			
	22-45	Enlarged LN ₂			
	22-46	Fuel Remaining Instrumentation			
	22-47	ARC-50 ADF Antenna Study Only			
	22-48-1	ADP Air Inlet Control			
	22-49-1	Fuel Management Revision			
	22-50-1	JC-130 Command XMTR and Recovery Chute Systems			
	22-51	AIC Prototype Changes			
TAT	22-52				
**** 	22-53				
ļ	22-54	Type I Camera Provisions			
•	22-55	A-12 Mod, Study LN2 Incr. & Stl. Gudgeon			
,	22-56-1	Roll, Pitch and Yaw Study			
	22-57-1	Hydraulic Rework - TEB Can			
$I \otimes$	22-58-1	Engine Oil Pressure Transmitter Design Improvement Testing			
	22-59	INS Hatch			
	22-60	Inlet Control Instrumentation			
	22-61	Not Used			
	22-62	AF-12 Seat and Parachute Rework Program			
		*			
	22-63-1	Fuel Cooling System			
	22-64-1	Fuel Quantity Modification to Five KC-135's			
		* Redetermined Item. Approved For Release 2002/08/16 : CIA-RDP69B6)0279R00010	0090001-5	

oproved For Release 2002/08/16 CIA-RDP69B00279R000100090001-5

0				
	ECP NO.	DESCRIPTION	TARGET PRICE	CEILING PRICE
	22-65-1	ARC-50 AY Installation Kits for Five KC-135's		
	22-66-1	Alternate Steering System for AF-12's		
STAT	22-67			
	22-68-1	Retrofit of Production ADP Inlet Control into S/N's 134 and 135		
	22-69	Drag Chute Improvements D		
	22-70	Improved Wheels and Brakes for A-12		
	22-71-1	Forward Look Periscope		
	22-72-1	Retrofit of Production ADP Inlet Control into all YF-12A's		
	22-73-1	Hydrogen Ignition System for YF-12A's		
(" ·	22-74	SR-3, #124, Breakout of 1 ship from 22-31 for later installation		
÷.	22-75	TACAN, #124 Breakout of 1 ship from ECP 22-22 for later installation		
STAT	22-76	#124, 129, 131. Breakout		;
		of 3 ships from ECP 22-43-1 for later installation		
	* 1			
		TOTAL		

^{*} Redetermined Item.

SUMMARY

I. REDETERMINED ITEMS

ECP NO.	TARGET	PRICE	CEILING PRICE
22-1-1		3-424	
22-2-1			
22-3-1			
22-4-1			
22-5-1			
22-6-1			
22-7-2			
22-8-1 22-9-2			
22-10			
22-11-1			
22-12-1			
22-13-1			
22-14			
22-15			
22-16			
2 2-19			
22-20 22-21			
22-24			
22-25			
22-26			
22-33			
22-34			
22-38			
22-39			
22-40			
22-42 22-42			
22-45			
22-46			
22-47			
22-48-1			
22-52			
22-53			
22-55			
22 - 59 22 - 60			
22 - 61			
22- 62			
22-63			
22-67			
22-69			
22-70			
SUB TOTAL			
~ · · · · · · · · · · · · · · · · · · ·			

STAT

II. ITEMS TO BE REDETERMINED

מרם אם	TARGET	PRICE	CEILING PRICE
22-17 22-18 22-22-1 22-23 22-27-1 22-28-1 22-29-1 22-30-1 22-31-1 22-32-1 22-35-1 22-37-1 22-41 22-43-1 22-49-1 22-50-1 22-51 22-54 22-56-1 22-58-1 22-66-1 22-68-1 22-68-1 22-71-1 22-72-1 22-73-1 22-74 22-75 22-76 SUB TOTAL	TARGET	PRICE	
	ł		

		SECRET CODY 7-3/0	
	MEMORANDUM F	OR : Director, Sational Reconnaissance Office	
	SUBJECT	: Approval of Engineering Changes to OXCART	
X1	MCF's approve the limitati vicusly approve to reporting report will included in	requesting a monthly report on new OXCART of by Director, Program B, is accordance with on set down and also a progress report on pre- oved changes. This memorandum restricts itself on ECP's approved since 5 Pebruary. A separate be made on those previously approved. Each ECP this report was under octor, Program B, approved the ECP's listed be-	
	low en 2 Mar	ch 1965:	
25X1	KP 21-2	New antenna for ARC-50 DF capability. Budgetary estimate This ECP covers Flame I which is to design, develop and test a prototype. This is required to increase range and to improve rendezvous capability with the tankers.	2
	SCP 22-29	Pilot Voice Recorder. This is a recorder combined with a destruct system for all A-12 aircraft, and covers selection of the recorder, development of a destruct system, and production of kits for installation. This had been previously requested by Director. Program B, and the ECP represents the formal proposal. Estimated cost is This includes installation and spares. This change will increase recording time to an acceptable level.	

25X1

ECP 22-41	Stall Warning System. This was requested by by Director, Program B, after the loss of aircraft 123 and is designed to prevent
	possible loss due to stall by providing a positive varning of an approaching stall. It is intended for all A-12 and AF-12 air-craft. Cost estimate is
BCP 22-51	Modifications to the Lockhood Inlet Control. The MCP covers design, development and manufacture of components required to incorporate inlet control modifications on aircraft 129, 130 and 131. The change will reduce calibration time considerably and will provide more accurate and more reliable Mach sensors. Retinated cost is
BCP 22-54	Modification to aircraft 121, 122 and 131 for Type I camera installation. (Other aircraft are already so configured). This will enable all aircraft to be capable of flying opera- tional missions with Type I camera. Estimated cost is
RCP 22-56	Measurement of roll, pitch and yaw. This covers the design and manufacture of one comparator system and development of computor program required to analyze data of Type I and Type II camera systems. It is intended to improve both the performance and the suality of the systems. Estimated cost is
3. Pr	ogress of these ECP's will be reported at a later
	JACK C. LEDFORD Colonel, USAF Director, Program B.

Approved For Release 2002/08/16 : CIA-RDP69B00279B000100090001-5

1 (1	SECRET SA/D/TECH/OSA Distribution: 1 - B/MRC 2 - HRO Comptroller 3 - BD/SAT 4 - AD/OSA 5 - D/TECH/OSA 6 - B/FA/OSA 7 - CD/OSA 8 - FE/OSA 9 - D/TECH/OSA (Chrono) 10 - RB/OSA	25. 25.
	SECRET	25 25

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Approved For Release 2002/08/16: CIA-RDP69B00279R960100090001-5

25X1

IN 91501 SECRET PAGE 2

ECP-67-134, NACELLE SWING JOINT PIPING REVISION SR-71. SP R-700

PREVIOUSLY APPROVED.

25X1

25X1

ECP-67-112, FUEL CROSSFEED VALVE POSITION INDICATOR SR-71.

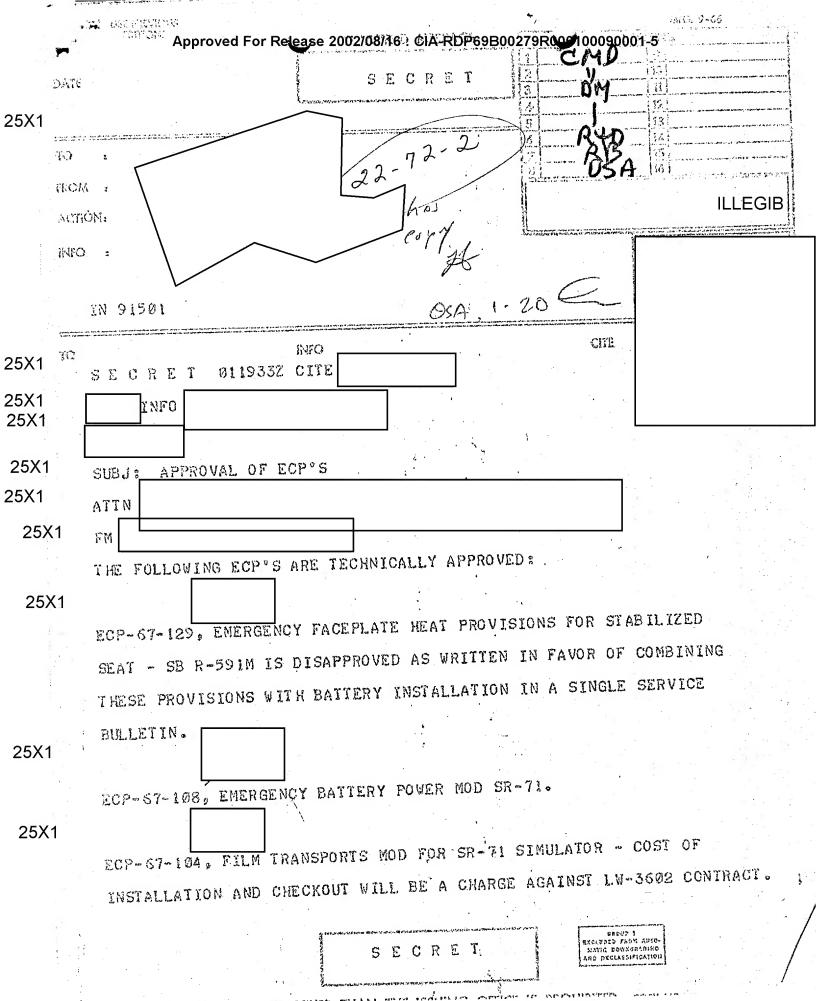
ew- FMY 36

ECP-SR-71-19/3666-139, COMPATIBILITY CHANGE SE APPROVED UNDER

SEPARATE LETTER.

ECP-22-72-2, RETROFIT OF PRODUCTION ADP INLET CONTROLS IN ALL YF-12A°S
THIS IS A PRICE REDUCTION CHANGE. DISPOSITION INSTRUCTIONS FOR EXCESS
PARTS AND MATERIAL WILL BE PROVIDED BY THE SPO AT A LATER DATE.

SECRET TOR: 011959Z AUG 67



LOCK	heed-calif	ORNIA GOMPA	NY		ERING STUI E PROPOSA	_		, A.C	22-56-2	
ATE	16 JUNE	1967		AFFECT	s:			PRO	JECT X	
IAME I		COMPONENT	PART	OR LOWE	ST SUBASS	EMBLY	P	ART NO. &	MODEL OR	TYPE
	F PROPOSAL	MEASURE	EMENT C	OF ROLL,	PITCH AN	D YAW				
oll, dll t	pitch and be run at	SAL: This EC yaw. A 70s the same tim	P will m came me as i	providera will the Type	e a methode fixed I or Typ	od of ac l to the pe II sy	stem.	system.	developme	ent of
the co	omputer pr	es the designment of the desig	red to	analyze	compara	cor date	. and o	TO (T) WE		
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1964 Budge Reaso	tary ECP and for Review of the progression of the progression to the progression of the p	oject of A-1 approval TWX lsion: To r am and analy posed Target	2 opti	the ECP	scope to l data ru lngly.	the de	sign a	nd develo	pment of	the
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LOCKHEED-CALIFORNIA COMPANY CHANGE PROPOSAL CHANGE PROPOSAL CHANGE PROPOSAL AFFECTS: PROJECT PART NO. & MODEL OR T FUEL TANKS TITLE OF PROPOSAL: This ECP covers the engineering design and fabrication of kits required to change the fuel tank sequencing of tanks #3 and #4 in A-12 aircraft [122] 125-132 [134] and 135. Also included are kits necessary to accomplish the tree	NRC 25)								
NAME OF MAJOR COMPONENT PART OR LOWEST SUBASSEMBLY PART NO. & MODEL OR T FUEL TANKS TITLE OF PROPOSAL: FUEL MANAGEMENT REVISION NATURE OF PROPOSAL: This ECP covers the engineering design and fabrication of kits required to change the fuel tank sequencing of tanks #3 and #4 in A-12 aircraft 12	25>								
FUEL TANKS TITLE OF PROPOSAL: FUEL MANAGEMENT REVISION NATURE OF PROPOSAL: This ECP covers the engineering design and fabrication of kits required to change the fuel tank sequencing of tanks #3 and #4 in A-12 aircraft 12									
FUEL MANAGEMENT REVISION NATURE OF PROPOSAL: This ECP covers the engineering design and fabrication of kits required to change the fuel tank sequencing of tanks #3 and #4 in A-12 aircraft [2]	YPE								
NATURE OF PROPOSAL: This ECP covers the engineering design and fabrication of kits required to change the fuel tank sequencing of tanks #3 and #4 in A-12 aircraft [2]	•								
of fuel from tank #2 to tank #6 and stop the transfer when 6,000 pounds of fuel re	ZI) Masfe								
Partial kits will be provided for the transfer of fuel from tank #2 to tank #6 for aircraft 134 and 135. Included in the kits will be: Part Number Noun Qty.	.								
REASON FOR PROPOSAL: This ECP will result in tank #4 being the last tank in the fuel sequencing. As a result, the C.G. of the article will be moved further aft for a greater portion of the cruise condition. Moving the C.G. aft reduces trim drag, and results in greater range. Reason for Revision: To reflect that partial retrofit kits for the transfer of fuel tank #2 to tank #6 in aircraft 134 and 135 will be provided and to reduce the proposed									
Target Price accordingly. The valves procured for these aircraft will be shipped the for use as field spares.	TO								
This ECP was approved by Headquarters Message 2341, dated 10 February 1965. ESTIMATED COST AND TIME INVOLVED:									
ES ESTIMATED COST AND TIME INVOLVED : ADDITIONAL FUNDING REQUIRED :									
ESTIMATED COST AND TIME INVOLVED :									
ES ESTIMATED COST AND TIME INVOLVED: ADDITIONAL FUNDING REQUIRED: CP ESTIMATED COST FOR KITS OR PARTS: (See Page 2.)									
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ESTIMATED COST AND TIME INVOLVED: ADDITIONAL FUNDING REQUIRED: ESTIMATED COST FOR KITS OR PARTS: ADDITIONAL FUNDING REQUIRED: (See Page 2.) ITEMS AFFECTED BY PROPOSAL: SAFETY MISSION PERFORM OPERATING CHANGE CHANGE CHANGE CHANGE ANCE TIVENESS ANCE PROCEDURE CHANGE CHANGE WEIGHT OR SUPPORT MANCE PROCEDURE CHANGE CHANGE OF PROCEDURE CHANGE	NANCÉ I								

LOCK	Approved For Re				000100090001-5 22-	30-1			
		CHANG	E PROPOSAL		2 70 A/ V. 12 M	N	RO		
DATE	14 January 1966	AFFECTS	s:		PROJECT	X	25X1		
NAME	OF MAJOR COMPONENT	PART OR LOWE	ST SUBASSEMBI	LY	PART NO. & MOD	EL OR TYPE			
TITLE	OF PROPOSAL: COMPRES	OR INLET PRE	SSURE INDICA	TING SYS	TEM				
in e	URE OF PROPOSAL: This sy each compressor and the ed pages 2 - 3 for techn	required total	l pressure o				0		
This ECP covers the following activities: 1. Design and development of the Pressure Indicating System. 2. Engineering design required to incorporate the System in A-12 and YF-12A Air-craft.									
3.	3. Fabrication of retrofit kits for all A-12, Articles except S/N 124, and all YF-12A aircraft.								
The ECP.	affect of this system o	n the R-12 pr		e covere		нт-3664	*		
2. 3. 4.	will allow completion of mission range. 3. This is only indication of inlet pressure recovery. 4. Present pressure recovery instrument now in use is simply made from a converted dual reciprocating engine manifold gauge. It has been planned to replace this with a true pressure recovery indicating system when sufficient flight test data was available to make this possible.								
ES	ESTIMATED COST AND TIME ADDITIONAL FUNDING REQU		N/A						
СP	ESTIMATED COST FOR KITS ((See Pa	age 4.)					
ITEMS	AFFECTED BY PROPOSAL:						1		
SAFET	TY MISSION PERFORM OPERA PROCE	DURE CHANGE V	VEIGHT OR SUPPO BALANCE EQUIPM	MAINT NANC PROCED	Ë I LIFE LI MAN				
	MAN/HRS. REQ'D. TO ACCOM				WEEKS VELLO VI	PPPOVAL			
1	RCE OF PARTS FOR KIT ADP er Service Bulletins A-6				WEEKS AFTER A	09/			
ì	DSITION OF SPARES AFFECTED TS WILL BE RETURNED TO D		OSITION.		amer	UX X			
INITI. ADP	ATED BY:		APPROVED	PROJ	ECT		()		

NATURE OF PROPOSAL (Continued) --

The proposed system calculates and provides a visual display of the pressure defined by the expression, $P = \frac{Ve^{-2}}{400} P_{400}$. Visual displays of actual left and right static pressures are provided in such a manner as to permit comparison with the calculated pressure.

The pressure display is obtained through the use of a triple pointer indicator. A separate electronics package houses the associated amplifiers and bridge circuits. Potentiometer type pressure transducers are employed to convert the left and right static pressures into an electrical signal. Intelligence for use in the pressure calculation is obtained by means of characterized potentiometers located in and driven by the Air Data Computer.

One of the potentiometers located in the ADC is characterized to produce an output which is proportional to $\frac{Ve^{-2}}{400}$. The second potentiometer is characterized to produce an output which is proportional to $\frac{1}{400}$. These potentiometers, in conjunction with two (2) fixed resistors and two (2) trim potentiometers, constitute one half $(\frac{1}{2})$ of a Wheatstone bridge. Trim pots and resistors in the electronics package and a rebalance potentiometer in the indicator, make up the second half of the bridge. Bridge unbalance is amplified and a servo motor drives the indicator potentiometer wiper to the position required to restore balance.

Indicator - The proposed triple pointer indicator contains three (3) motors, three (3) gear trains, and three (3) rebalance potentiometers within a single square case. The indicator places the calculated pressure in the form of a bug type pointer which provides visual representation of an allowable pressure band width.

Control Unit - This unit contains the three (3) bridge circuits and the three (3) amplifiers required for the system.

Internally, this device consists of five (5) rectangular circuit boards which are supported from the backplate by means of standoffs. Six (6) potentiometers are located under a cover on the backplate and are used for field adjustment of the system.

Two (2) multipin connectors are employed for making electrical connections.

The circuit used to calculate pressure is essentially a Wheatstone bridge. Half of the bridge is located in the control unit and the other half is in the ADC.

Pressure Transducer - The proposed pressure transducers are of the bellows/potentiometer type. Provisions can be made to attach these units to the control unit or they may be situated at some other convenient point. These devices will be in a location which will minimize the required pressure line run.

REASON FOR PROPOSAL (Continued) ---

- 6. When used with the Lockheed inlet control, this indicator will be used also to peak up the inlet performance when using the manual mode. This indicator is most essential when on manual mode in order to obtain maximum engine performance without inlet blowout.
- 7. This indicator, of course, tell when the inlet is started.

Reason for Revision:

To submit Proposed Target Price. This price reflects a reduction in the engineering and manufacturing effort, the material costs and the deletion of ship 124.

This ECP was approved by Headquerters Message 2341, dated 10 February 1965.

	Approved For I		2/08/16 : CIA-R		9R0001000900	01-5	
LOCK	HEED - CALIFORNIA COMPA	М	ANGE PROPOSA	<u>.</u>	LAC	22-30	
			- TROI OUT				NF
DATE	14 October 1964	AF	FECTS:	X	PRO.	IECT XX] 2
NAME	OF MAJOR COMPONENT	PART OR L	OWEST SUBASSE	MBLY	PART NO. &	MODEL O	R TYPE
TITLE	OF PROPOSAL : COMPRESSO	R INLET PR	RESSURE INDIC	ATING SYST	EM		
This and tech This	RE OF PROPOSAL: system would enable th the required total pres nical description.) ECP covers the followi Design and development	sure on a	triple indic	ator. (See	attached pag	geв <u>2 -</u>	3 for
2. :	Engineering design requestion of retrofit Installation on all A-1	ired to in kits for	ncorporate the	System i	n all A-12 a		1
The I	affect of this system o	n the R-12	2 program wil.	L be cover	ed on a separ		
REAS	ON FOR PROPOSAL:			*.	*		4
3.	will allow completion of This is only indication Present pressure recoved dual reciprocating enging with a true pressure rewas available to make the Pilot can read small ai	of inlet ry instrum ne manifol covery ind his possib	pressure receivent now in unit gauge. It dicating systematical income and the control of the con	se is simp has been sm when su	planned to refficient flig	eplace to the stand left	his data inlets
	ESTIMATED COST AND TIME	INVOLVED	:				S
ES	ADDITIONAL FUNDING REQ	UIRED :					
СP	ESTIMATED COST FOR KITS ADDITIONAL FUNDING REQ		See Page 4.		getary Target Rel. Program rogram Cost	t Price	
ITEMS	AFFECTED BY PROPOSAL:						1
SAFE		LATING INTER- CHANG ABILIT	E- WEIGHT &	UPPORT NA	NTE- NCE NCE EDURE	FLIGHT	MAINTE- NANCE MANUAL
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	rce of parts for kit ice bulletin to be writ	'Ten	AVAILA	BILITY	WEEKS AFT	ER APPRO	OVAL
SERV						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
DISPO	OSITION OF SPARES AFFECTE S WILL BE RETURNED TO D		DISPOSITION				NIF
DISPO			DISPOSITION	VED :			OF 4

NATURE OF PROPOSAL (Continued) --

The proposed system calculates and provides a visual display of the pressure defined by the expression, $P = \frac{Ve^{-2}}{400} P_{400}$. Visual displays of actual left and right static pressures are provided in such a manner as to permit comparison with the calculated pressure.

The pressure display is obtained through the use of a triple pointer indicator. A separate electronics package houses the associated amplifiers and bridge circuits. Potentiometer type pressure transducers are employed to convert the left and right static pressures into an electrical signal. Intelligence for use in the pressure calculation is obtained by means of characterized potentiometers located in and driven by the Air Data Computer.

One of the potentiometers located in the ADC is characterized to produce an output which is proportional to $\frac{Ve^{-2}}{400}$. The second potentiometer is characterized to produce an output which is proportional to $\frac{1}{P_{400}}$. These potentiometers, in conjunction with two (2) fixed resistors and two (2) trim potentiometers, constitute one half $(\frac{1}{2})$ of a Wheatstone bridge. Trim pots and resistors in the electronics package and a rebalance potentiometer in the indicator, make up the second half of the bridge. Bridge unbalance is amplified and a servo motor drives the indicator potentiometer wiper to the position required to restore balance.

<u>Indicator</u> - The proposed triple pointer indicator contains three (3) motors, three (3) gear trains, and three (3) rebalance potentiometers within a single square case. The indicator places the calculated pressure in the form of a bug type pointer which provides visual representation of an allowable pressure band width.

Control Unit - This unit contains the three (3) bridge circuits and the three (3) amplifiers required for the system.

Internally, this device consists of five (5) rectangular circuit boards which are supported from the backplate by means of standoffs. Six (6) potentiometers are located under a cover on the backplate and are used for field adjustment of the system.

Two (2) multipin connectors are employed for making electrical connections.

The circuit used to calculate pressure is essentially a Wheatstone bridge. Half of the bridge is located in the control unit and the other half is in the ADC.

Pressure Transducer - The proposed pressure transducers are of the bellows/potentio-meter type. Provisions can be made to attach these units to the control unit or they may be situated at some other convenient point. These devices will be in a location which will minimize the required pressure line run.

REASON FOR PROPOSAL (Continued) --

- 6. When used with the Lockheed inlet control, this indicator will be used also to peak up the inlet performance when using the manual mode. This indicator is most essential when on manual mode in order to obtain maximum engine performance without inlet blowout.
- 7. This indicator, of course, tells when the inlet is started or unstarted. This ECP was Item #2 on our 30 April 1964 ECP listing. We are proceeding based upon approval given in HQ's TWX 6882, dated 12 May 1964.

	Approved For Re	elease 2002/0	8/16 : CIA-R	theagh	02 79H	00010009000	71-5		
POCKE	HEED-CALIFORNIA COMPANY	1	NGE PROPOS		x	LAC		29-1	NID
DATE	14 JANUARY 1966	AFFE	CTS:	<u> </u>		PRO	JECT	x	
NAME	OF MAJOR COMPONENT VOICE RECORDER	PART OR LO	WEST SUBAS	SEMBLY	-	PART NO. &	MODE	L OR TY	PE
TITLE	OF PROPOSAL: PILOT VO	ICE RECORDE	R						
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MEM	ORANDUM FOR THE	RECORD		.	NF
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Prog	ram B, NRO, met v				
	ne review of current s				•
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Approved For Release 2002/08/16: CIA-RDP69B00279R000100090001-5 SECRET 25X1 25X1 25X1 25X1 (Signed) Jack C. Ledford JACK C. LEDFORD Colonel USAF Assistant Director (Special Activities) 25X1 AD/OSA/JCLedford Distribution: #1 - AD/OSA #2 - DD/S&T #3 - DAD/OSA #4 - C/PS/OSA #5 - D/TECH/OSA #6 - D/FA/OSA 47 - Chrono #8 - RB/OSA 25X1

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25X1

DEPARTMENT OF THE AIR FORCE WASHINGTON

OFFICE OF THE UNDER SECRETARY

6 FEB 1975

25X1NRO	MEMORANDUM FOR Director, NRO Program B
	SUBJECT: Approval of Engineering Changes to OXCART
	Reference is made to your memorandum of 3 February, subject as above.
	ECP's 22-30, 22-35, 22-36, 22-43, 22-49, and 22-58 are approved as submitted.
25X1 NRO	My 24 November letter which delegated you authority to approve ECP's under is hereby revised to reflect ECP's under
* * *	Please keep me apprised, on a monthly basis, on new ECP's approved by you and also progress on major ECP's previously approved and in work.
* * *	
	Brockway McMillan Director National Reconnaissance Office
	Copy 2-DDCI
	Series B: 1-DD/S&T 2-D/TECH/OSA 3-PS/OSA OXCART
	4-CD/OSA
	TROW AUTOMATIC PECONO
DOD DIR	FROM AUTOMATIC REGRED 11: Control No. 5200.10 DOES NOT APPLY
	Approved For Pelease 2002/08/16 : CIA-PDP69R00279P00010090001-5

CENTRAL INTELLIGENCE AGENCY WASHINGTON 25, D.C.

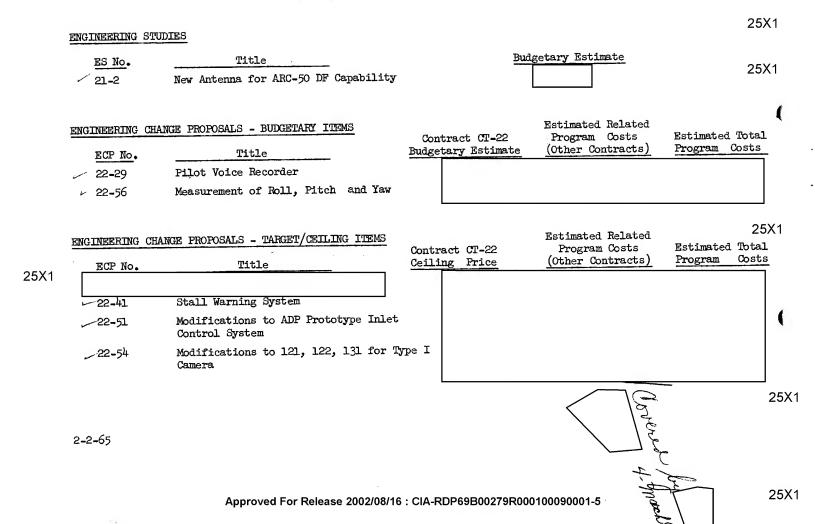
25X1	Copy_7	25X1
	MEMORANDUM FOR: Director National Reconnaissance Office SUBJECT: Approval of Engineering Changes to OXCART	NRO 25X1
25X1 ^{NRO}	1. Forwarded herewith are copies of six ECP's, each of which is over and therefore requires your approval in accordance with your letter of 24 November 1964. In addition I have attached a list of ECP's under that I have approved since receipt of your letter. In both cases, a short justification explaining the reason for the ECP is included. More detailed explanation may be found on the attached ECP's.	NRO 25X1
25X1NRO	2. It is recommended that you approve the six above and notify me so that the contractor may be advised. 3. The ECP's included in this document, plus those which have been approved prior to your memorandum of 24 November 1964, will provide for the so-called major modification program which we have been studying recently, with the exception of the following:	
	 a. The addition of extra fuel tanks which we are recommending against. b. The stiffening of the rudder post arms and the modification of the air data computer to obtain 	25X1
	climb capability, and,	25X1
	Getta, Fraing and declaration lies	25X1

25X1.	SECRET	
25X1		25X1
	4. At this time it appears that the modifications enumerated	25X1
	5. Although it appears that some savings could be obtained by accomplishing some of these ECP's and service bulletins in one modification program at Palmdale, I do not think the amount of savings would justify the security risk and the longer-down time of the aircraft which would result in going to Palmdale. I will have a program plan for the A-12 for the remainder of FY 65 and 66 within the next week which will demonstrate that we can accomplish our objectives with the above ECP program and still be able to re-program money from the airframe line item to the J-58 engine line item to accomplish objectives in the engine program.	25X1
NRO	JACK C. LEDFORD Colonel USAF Director, Program B, NRO	NRO 25X1
25X1	Attachments: I ECP's under (List) II ECP's over (List)	
		, 25X1
	2 Secret	25X1

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ENGINEERING STUDIES AND CHANGE PROPOSALS



OSA - 0678-65

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>	February	1965
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To:	Contracting	Of	ficer,	Contre	acts CT-	22 a:	nd FT-21	_	
Subject:	TRANSMITTAL	OF	ENGIN	EERING	STUDIES	AND	CHANGE	PROPO	SALS
Transmitte	ed herewith	for	vour	conside	eration	and :	approval	L are	the

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attached Engineering Studies and Change Proposals.

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		SECRET Attachment I to: LIST OF ECP'S UNDER	25X1 25X1 NRO 25X1
	22-7-2	Deletes replacement of two ARC-50 ground stations. This ECP was previously approved for a total of in March 1964 and amendment No. 1 is merely to gain formal approval of the celetion.	25X1
25X1	22-9-2	This amendment to a previously approved ECP is to increase the scope of lightning tests by conducting some on the nose of the aircraft in addition to the rudder. Ceiling price -	20/(1
25X1	22-11-1	Oxygen system balance valve. This amendment is to revise the system so as not to lose oxygen from a system that has failed by removing the failed system from usage. ECP 22-11 had been previously approved. Ceiling price -	
25X1	22-12-1	A-12 parachute improvement program. ECP 22-12 had been previously approved. This amendment is concerned with developing a method to provide additional altitude for better seat/plane separation. The new ceiling price is and the work is completed.	
	22-13-1	Periscope improvement. This was previously approved and the amendment adds the installation of a new reticle to provide the pilot with the ability to set his course by using the sun compass. Total cost -	25X1
	22-24	Drag chute deploy handle to replace 3-way toggle switch. This was requested by the pilots for more efficiency. Total cost -	25X1
25X1	22-27-1	Map case destruct system. Previously approved and this amendment is to establish firm ceiling price of	
· **	*	SECRET	25X1

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25X1		SECRET Attachment I to:	25X1 25X1
25X1	22-62	Seat and parachute rework to accept more powerful catapult developed under ECP 22-12-1. This was for Kedlock vehicles and was approved by dated 28 December 1964. Estimate of related costs	25X 1
	22-66	Alternate steering system in case of loss of left hand, engine driven, hydraulic pumps for Kedlock vehicles. December 1964 approved this ECP for	25X1 25X1

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25X1	:	SECRET Attachment II to:	25X1 25X1
		LIST OF ECP'S OVER	NRO 25X1
		Compressor inlet pressure indicator to enable the pilot to see the compressor inlet pressure in each engine to determine if controls are functioning in a manner that will allow completion of mission range. This is a necessary change and had been approved for all Kedlock vehicles. Total program cost -	25X1
		All Attitude Fuel Readout System. At the present time the fuel guage reads accurately only at an aircraft angle of attack of 7 1/2 degrees. Estimated total program costs -	25X1
		Design and develop four carts to aid in complete checkout of control system. This has been done previously by using whatever contractor equipment available but is needed to expedite operational checkouts on pre- and post-flights. The ECP also includes equipment for the Kedlock program. This ECP had been previously approved and this is the formal contractor request. Total estimated cost -	
25X1		Tequest. Total estimated cost	
The street of th		Replace in all OXCART vehicles being retrofitted with Lockheed electronic inlet control under ECP-48, previously approved. Actual go-ahead will be withheld until a final decision is made on inlet control. Total program costs -	25X1 25X1
057/4		Design and engineer kits required to change the fuel tank sequencing on all aircraft except #121. This is to reduce trim drag and results in greater range. Total cost -	25X1
25X1	22-58	Replace oil pressure transmitter with	1
25X1	•	to correct flight aborts. The present transmitter has been causing too frequent aborts for reliability. Total cost -	
25X1		Iotai cost -	
	*		25X1
Marie Carlotte College		SECRET RADICULATION of the description of the de	utomatic and

Approved For Release 2002/08/16 : CIA-RDP69B00279R000100090001-5

LOCKHEED-CALIFORNIA COMPANY		NG STUDY	X	LAC	22-22-1	
DATE 14 JANUARY 1966	AFFECTS:			PRC	NECT X	
NAME OF MAJOR COMPONENT	PART OR LOWEST	SUBASSEMBI	LY	PART NO. &	MODEL O	R TYPE
TITLE OF PROPOSAL:	CAN					
NATURE OF PROPOSAL: This ECP incorporate TACAN in A-12 A ARC-15F Receiver and B18A C stellation will be removed difficult task requiring en (2) 129-131. Extensive mod areas.	rticles 122,125 onverter. In a from the nose p gineering for t	-132 134 a ddition th er wo (2) set	nd 135. e Glide s of Art	TACAN will Slope Marke Inste	replace er Receivallation 122,125-1	the ver in- is a .28 and
ECP 22-75 will incorporate	TACAN in Articl	e 124.				STAT
	`					
REASON FOR PROPOSAL:					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
This ECP was approved by He	adquarters Mess	age 798, d	ated 20	July 1964.	in 9 ct	-22
ES ESTIMATED COST AND TIME ADDITIONAL FUNDING REQU		N/A	<u> </u>			
CP ESTIMATED COST FOR KITS	OR PARTS:	(See Pa	uge 2.)			
ADDITIONAL FUNDING REQU						ŧ
ADDITIONAL FUNDING REQUIENCES AFFECTED BY PROPOSAL :			-			
ITEMS AFFECTED BY PROPOSAL : SAFETY MISSION PERFORM OPERA	EDURE CHANGE- WEIG	OHT OR TOOLS OHT & SUPPO ANCE EQUIPM	AT I NANC	E LIFE	ALIOHT MANUAL	MAINTE- MANCE MANUAL
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LOCKHERD-CALIFORNIA COMPANY		ng study Proposal	X	LAC	22-22-1	
DATE 14 JANUARY 1966	AFFECTS:			PRO	DJECT X	
NAME OF MAJOR COMPONENT	PART OR LOWEST	SUBASSEMBLY		PART NO. 8	MODEL C	R TYPE
TITLE OF PROPOSAL :	CAN					
NATURE OF PROPOSAL: This ECP incorporate TACAN in A-12 A ARC-15F Receiver and B18A C stallation will be removed difficult task requiring en (2) 129-131. Extensive mod areas.	rticles 122,125 onverter. In a from the nose pe gineering for to	-132 134 and dition the er [135. Glide	TACAN wil Slope Mark Inst icles (1)	l replace er Receivallation 122,125-1	the rer in- is a 128 and
ECP 22-75 will incorporate	FACAN in Article	e 124.				0.7.4
*					,	STAT
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This ECP was approved by He	adquarters Messa	age 798, dai	ted 20	July 1964.	in 9 ct	-22
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ES ADDITIONAL FUNDING REQU		N/A				
ESTIMATED COST FOR KITS	OR PARTS:					
CP ADDITIONAL FUNDING REQU	IIRED ;	(See Page	e 2.)			
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SOURCE OF PARTS FOR KIT ADP w under Service Bulletins: 60 950 and 956.	ill furnish	AVAILABILITY		_ WEEKS AF	TER APPRO	OVAL
DISPOSITION OF SPARES AFFECTED			······································			,
Equipment removed from airc	raft will be re-	······································	ie Depc	t.		
INITIATED BY: PROJECT HEAD	quarters	APPROVED:				

Neturn to CD/DSA

LOCKHEED-CALIFORNIA COMPANY CHANGE PROPOSAL CHANGE PROPOSAL DATE 26 May 1964 AFFECTS: PROJECT PART NO. & MODEL OR TYPE ATRICRAFT TITLE OF PROPOSAL: TACAN IN ALL A-12's STAT
DATE 26 May 1964 AFFECTS: PROJECT X NAME OF MAJOR COMPONENT PART OR LOWEST SUBASSEMBLY ATRCRAFT TITLE OF PROPOSAL: TACAN IN ALL A-12's STAT
DATE 26 May 1964 NAME OF MAJOR COMPONENT PART OR LOWEST SUBASSEMBLY ATRCRAFT TITLE OF PROPOSAL: TACAN IN ALL A-12's STAT
DATE 26 May 1964 NAME OF MAJOR COMPONENT PART OR LOWEST SUBASSEMBLY ATRCRAFT TITLE OF PROPOSAL: TACAN IN ALL A-12's PROJECT X PART NO. & MODEL OR TYPE STAT
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TITLE OF PROPOSAL: TACAN IN ALL A-12's STAT
TOTAL THE PROPERTY OF A RANGE OF A RANGE OF THE PROPERTY OF TH
NATURE OF PROPOSAL: Install TACAN in all A-12 Articles. TACAN (ARM-52V) replaces VOR (ARC-15F receiver and BISA converter). In addition, the Glide Slope Marker Receiver installation will be removed from the nose per request Installation is difficult job requiring different engineering for four sets of articles (a) 121, 122, 125-128, 132,133 (b) 129-131 (c) 124 (d) 134,135. Preliminary evaluation indicates joint for the sets of articles (a) 121, 122, 125-128, 132,133 (b) 129-131 (c) 124 (d) 134,135.
can be accomplished. Major modification required in "E" - bay and cockpit as well as changes in other areas including chines. Assumes TACAN and Indicator is GFAE to LAC.
STAT approved his Suly of
STAT Ownord 66
- 1
REASON FOR PROPOSAL: 1. Requests ECP. 2. To identify job and provide budgetary estimate.
REASON FOR PROPOSAL:
1. Requests ECP.
2. To identify job and provide budgetary estimate.
3. We are proceeding with this job based upon authorization provided by This is item 1 on "Anticipated ECP" list submitted 30 April 1964.
STAT STAT
ESTIMATED COST AND TIME INVOLVED:
IFC STAT
ADDITIONAL FUNDING REQUIRED.
ESTIMATED COST FOR KITS OR PARTS: Budgetary Estimate Target
CP ADDITIONAL FUNDING REQUIRED: See Page 2 Ceiling
ADDITIONAL FUNDING REQUIRED: See Page 2 Ceiling ITEMS AFFECTED BY PROPOSAL:
ADDITIONAL FUNDING REQUIRED : Deg Tage 2 ITEMS AFFECTED BY PROPOSAL : SAFETY MISSION PERFORM OPERATING INTER. WEIGHT OR TOOLS & MAINTE- SERVICE FLIGHT MAINTER WEIGHT & SUPPORT NANCE LIFE MANUAL MANCE
ADDITIONAL FUNDING REQUIRED : Deg 2005 2 ITEMS AFFECTED BY PROPOSAL : SAFETY MISSION PERFORM OPERATING INTER. WEIGHT OR TOOLS & MAINTE- SERVICE FLIGHT MAINTE- NANCE LIFE MAMUAL NANCE
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ITEMS AFFECTED BY PROPOSAL: SAFETY MISSION PERFORM OPERATING INTER. WEIGHT OR SUPPORT NANCE PROCEDURE CHANGE. WEIGHT & SUPPORT PROCEDURE PROCEDURE CHANGE ABILITY EST. MAN/HRS. REQ'D. TO ACCOMPLISH CHANGE IN FIELD SOURCE OF PARTS FOR KIT DISPOSITION OF SPARES AFFECTED Equipment removed from Aircraft and Spares will be sent to Depot
ITEMS AFFECTED BY PROPOSAL: SAFETY MISSION PERFORM- OPERATING CHANGE- CHANGE- CHANGE- ABILITY MEIGHT OR BALANCE PROCEDURE CHANGE- ABILITY BALANCE PROCEDURE PROCEDURE MANUAL MAN

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DATE 29 NOVEMBER 1965	AFFEC	CTS:			PRO	DIECT 🔯	2 92 1
NAME OF MAJOR COMPONENT DXYGEN SYSTEM	PART OR LOV	WEST SUBA	SSEMBLY		PART NO. 8	MODEL C	OR TYPE
TILE OF PROPOSAL: RETROFIT O	F LOX SYST	EM - A-1	2 ARTICI	æs.	;		STA
NATURE OF PROPOSAL: Provide kits to retrofit S/N	121, 122,	124-131 :	and 134,	135 to	Liquid (Oxygen S	ystem.
No-place articles (S/N 124, liters) as single place artic	134 and 13	5) vill 1	have the	same (xygen car	pacity (
	rith failur						
See ECP 22-8 for development	cost and i	ncorpore	tion of	LOX Sy	stem in S,	/N 132 ai	nd 133.
REASON FOR PROPOSAL:							
leadquarters message	requests	ECP.					
Reason for Revision: To subr					T	-1	
		celling.			سبمه	0	
		Ceiling		by	and	re 9.	
		Ceiling		by	and	re 9	
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ES ESTIMATED COST AND TIME IS ADDITIONAL FUNDING REQUIREMENTS OF THE PROPERTY	NVOLVED : RED ; R PARTS ; RED ;		Jv.	MAINTE. MANCE PROCEDUR	SERVICE LIFE	FLIGHT MANUAL	MAINTE- HANCE MANUAL
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ATURE	OF PROPOSAL:	Provide	kits	to reta	rofit S/N	121, 12	2, 124 -	131 and	134,	135	
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LOCE	THEED-CALIFORNIA COMPAN	Y	HANGE PROPO	بيبا		AC	22-17	7	
DATE	June 3, 1964	A	FFECTS:		x	PRO	DJECT	X	
NAME	OF MAJOR COMPONENT CONTROL STICK	PART OR	LOWEST SUBA	SSEMBLY	PA	RT NÒ. &	MODE	LORT	YPE
TITLE	OF PROPOSAL :	E CONTROL	STICK GRIPS	3 ON A-12	AND AF	12 ARTI	CLES		
Repl made by o for	RE OF PROPOSAL: ace presently used B-9 i out of magnesium. B- other users. L.A.C. has the magnesium stick gri	9 was full s had 50%	ly qualified of units for	l unit wi	th no fe	ilures reloped	a new	sourced.	
2.	Replace defective con						S	TAT	
							S	TAT	
	We are proceeding with	th this jo	ob on the ba				S	TAT	
2.	We are proceeding wi	INVOLVED JIRED: OR PARTS:	ob on the ba	isis of		get Pricing Pric	e	TAT	
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DATE 27	7 October 1	.964		AFFEC	CTS:			PROJ	IECT X	
NAME	OF MAJOR C	COMPONEN	T PAR	OR LOV	WEST SUBAS	SEMBLY	P	ART NO. &	MODEL C	R TYPE
TITLE C	OF PROPOSAL	DRAG	CHUTE D	EPLOY H	ANDLE	·····				
NATUR	E OF PROPO	SAL:								
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ITEMS	AFFECTED BY	PROPOSAL	:					_		- : ;
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	,,veness									
EST. N	AN/HRS. REC	Q'D. TO AC	COMPLISH	CHANG	E IN FIELD					
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SER	VICE BULLET	TIN 590						100		
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	TED BY:	PILOTS			APPI	ROVED:				
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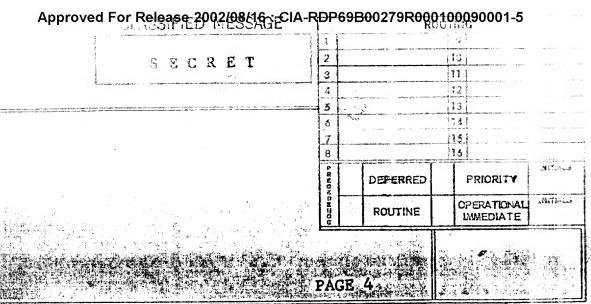
FIREWELL CO.

A: DEVELOP PARACHUTE SUPPORT BLOCK WITH OPTIMUM WEIGHT CHANGE RESPONSE TO INSURE MINIMUM WEIGHT OF PARACHUTE ON PILOTS SHOULDERS. IF POSSIBLE SPACE FOR SMALL SURVIVAL ITEMS SHOULD BE PROVIDED. PROTOTYPE AVAILABLE 20 FEB 64.

- B. ON BASIS OF INDIVIDUAL PILOTS, CUSTOMIZE SEAT CUSHIONS FOR THE SURVIVAL KIT. REPORT ON PROGRESS ON AT LEAST ONE PILOT BY 1 MARCH 64.
- C. DESIGN PAN TO INCORPORATE NEW PARACHUTE RELEASES AND EMERGENCY OXYGEN SUPPLY IN PRESENT PARACHUTE CONFIG. EIGHTY CU. IN. OF OXYGEN TO BE SUPPLIED IN DUAL SYSTEM DESIGN.
- D. CONTINUE EFFORTS TO REDUCE SUIT CONTROLLER BACK PRESSURE. REQUEST REPORT ON PROGRESS BY 1 MARCH 64.

 DAVID CLARK CO.

A.	PROCEED	CAPAINE BY THE CONTRACTOR	ERBASIS ON A	DESIGN TO	ஆர்த்து விழு கேரார். இத்து விழு கேரார்
		S E C R E T	GROUP		
				AUTHENTIC	TING OFFICER
ELEASING OFFICER	ICTION BY OTH	ED TUAN THE ISS	ING OFFICE IS P	ROHIBITED.	Copy No.



INFO COTE

INCORPORATE A LIGHT WEIGHT OXYGEN MASK FOR USE IN THE

FPS HELMET WHICH WILL ALLOW THE PILOT TO FLY WITH FACE

VISOR IN THE UP POSITION WHILE AT NORMAL COCKPIT PRESSURE.

FACE VISOR SHOULD RESPOND AUTOMATICALLY IF COCKPIT

PRESSURE IS REDUCED. REPORT ON PROGRESS BY 1 MARCH 64.

- B. REPORT BY 1 MARCH 64 ON PROGRESS OF NEW DESIGN OF PRESSURE SUIT GLOVE.
- C. INVESTIGATE NEW APPROACHES TO INSURE LIGHTER WEIGHT HELMET AS DISCUSSED IN SUPPLIERS MEETING ON 29

 JAN 64. REPORT ON PROGRESS 15 MARCH 64.
- D. HAVE PROTOTYPE OF WEDGE SOLE SHOES AND NEW DESIGN SPUR BY 15 MARCH 64.
- E: INCORPORATE IN FLIGHT FEEDING PORT IN FPS HELMET BY 1 APRIL 64.

F. IMPROVE FPS WATCH POCKET DESIGN BY 1 APRIL 64.

	a. V				•	·		
25X1	G.	REQUEST	STATUS OF	N FACE	BARRIER	MODIFICATION	ВҮ	_
141	MARCH	64.	COORDINATING	OFFICERS	-			
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REPRODUCTION BY OTHER THAN THE ISSUING OFFICE IS PROHIBITED.

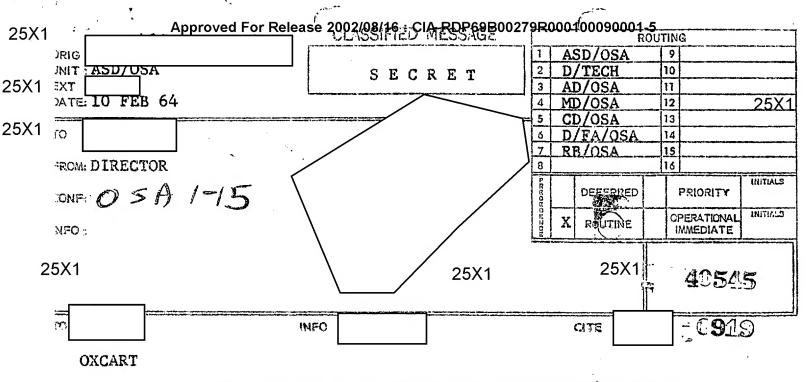
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Approved For Re		: CIA-RDP RING STUD		79R 0 001	0009000	1-5		
LOCKHEED-CALIFORNIA COMPAN	Y				AC	22-1	LO	
	CHANGE	PROPOSAL	X]] ""	We as early			NR(
DATE January 20, 1964	AFFECTS	:		\square	PRC	DJECT		2
NAME OF MAJOR COMPONENT	PART OR LOWES	T SUBASSE	MBLY	PAI	T NO. &	MODI	EL OR	TYPE
PRESSURIZATION SYSTEM	SUIT VENT	LINE			AA-13	3-32		
TITLE OF PROPOSAL :	UIT VENT AIR S	YSTEM REC	FULATOR			•		
NATURE OF PROPOSAL:								
No. 392518-2-1 to be install No. 392518-2-1 to be installated pressure settings	lled in AF-12	erials 12 serials 1	21,122, 1001 th	124 throrum 1003	i 135 ar Dash	ad Par	rt	
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pressure suit, however im increased oxygen usage du of suit. Installation of of pressure irrespective	proper regulaties to additional pressure regulation pressure regulation manual suit	on of su physica stor wil	it pres l exert l more	sture ca cion imp precise	osed by	"sti tor s	ffnes upply	216
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				CHAN	GE PROPO	SAL [E-458 75	**** *			NRO
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4. F	Prepare and	submit	reports	on the	results	or the a	bove i	escs.		•		
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REASOI	N FOR PROP	OSAL:									•	
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1. AS A RESULT OF THE SUPPLIERS CONFERENCE OF 29 JAN AT LAC DEALING WITH AEROMEDICAL AND LIFE SUPPORT SYSTEMS, THE FOLLOWING PRIORITY LISTING OF PROBLEM AREAS ARE DEFINED:

LAC

A. ASSUME RESPONSIBILITY OF DESIGNING A BALANCING

VALVE WHICH WILL INSURE EQUAL FLOW OF OXYGEN FROM BOTH

SYSTEMS. ACCEPTABLE TOLERANCE TO BE 200 PSI DIFFERENTIAL.

REQUEST BI-MONTHLY REPORTS ON THIS PRIORITY ITEM BE ILLEGIB

SUBMITTED TO THIS HQS STARTING 1 MARCH 64.

B. INSTALL 1100 CU. IN. OXYGEN BOTTLES

IN AT LEAST ONE A/C BY 29 FEB 64.

ILLEGIB

C. CONTINUE PRESENT EFFORT TO INSTALL NEW REGULATOR
FOR SUIT VENT PRESSURE AT 10" - 40" OF H₂O AND APPROX.

12 CFM. IT IS UNDERSTOOD ONE WILL BE INSTALLED BY 1

MARCH 64, TWO BY 15 MARCH 64.

COORDINATING OFFICERS

AUTHENTICATING OFFICER

SECRET

REPRODUCTION BY OTHER THAN THE ISSUING OFFICE IS PROHIBITED.

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FIREWELL CO.

- A. DEVELOP PARACHUTE SUPPORT BLOCK WITH OPTIMUM WEIGHT CHANGE RESPONSE TO INSURE MINIMUM WEIGHT OF PARACHUTE ON PILOTS SHOULDERS. IF POSSIBLE, SPACE FOR SMALL SURVIVAL ITEMS SHOULD BE PROVIDED. PROTOTYPE AVAILABLE 20 FEB 64.
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- C. DESIGN PAN TO INCORPORATE NEW PARACHUTE RELEASES AND EMERGENCY OXYGEN SUPPLY IN PRESENT PARACHUTE CONFIG. EIGHTY CU. IN. OF OXYGEN TO BE SUPPLIED IN DUAL SYSTEM DESIGN.
- D. CONTINUE EFFORTS TO REDUCE SUIT CONTROLLER BACK PRESSURE. REQUEST REPORT ON PROGRESS BY 1 MARCH 64.

 DAVID CLARK CO.

A.	PROCEED	69	DRE	IN	R	(O)	31=	FICERS BASIS	SON	A D	ESIGN	TO	
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ro.	INFO		CITE		
	D. CHANGE OXYGEN PRESSURE WAR	RNING I	LIGHT TO	INDICATE	
	E. EXPEDITE INVESTIGATION OF	METHOI	o for st	OWING	
	OR ROTATING RUDDER PEDALS TO ENABLE	E PILO	r to str	AIGHTEN	
	LEGS .				
	F. PROCEED WITH QUALIFICATION	OF PA	ARACHUTE	RELEASE	
	INCORPORATING STABILIZATION CHUTE I	RELEASI	E AND MA	IN	
	PARACHUTE DEPLOY IN ONE DEVISE VS.	PRESE	NT TWO D	EVICES.	
	QUALIFICATION OF THIS DEVICE WILL I	AVE TO	D BE PER	FORMED	
	BY LAC. REQUEST QUALIFICATION TEST	rs and	THEIR R	ESULTS	25X1
	BE COORDINATED WITH]	IGHT FIE		
	G. MODIFY EJECTION SEAT HEADI	RESTS	AS PROPO	SED AT	
•	SUPPLIERS CONF.	·			
25X1	H. INVESTIGATE THE POSSIBILITY	ry of :	INSTALLI	NG THE	
20/(1	ON THE EJECTION S	EAT AS	DISCUSS	ED	
	BETWEEN				25X1
	COORDINATING OFFICERS	7			
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RELEASING OFFICER

AUTHENTICATING OFFICER

Copy No.

Approved For Release 2002/08/16 C	ASROP69B06279R0001	00090001-5
LOCKIEED CAT TROUBLE CONDANY	PROPOSAL X	I'V'C 55-76
April 30, 1964 Affects		PROJECT 🔯 25)
NAME OF MAJOR COMPONENT PART OR LOWES Oxygen System	T SUBASSEMBLY	PART NO. & MODEL OR TYPE
TITLE OF PROPOSAL: Oxygen System Low Presi	sure Warning Light	
NATURE OF PROPOSAL: Addition of low pressure additional pressure switch will be connect pressure switch both high and low pressure common warning light. S/N 121, 122, 124-change.	ted to existing lie	tht. Upon addition of
		STAT
REASON FOR PROPOSAL: 1. Headquarters message 2. LAC does not concurring to the present system and the present sys	that this warning is In addition, the lasted the need for it request for this EUP 22-15 LOX Retricted system.	light is a necessity balance valve provided this installation as light by she Area.
ESTIMATED COST FOR KITS OR PARTS : Budge		finsti:
TIVENESS ANCE PROCEDURE CHANGE ABILITY BALL	HIT OR TOOLS & MAINTE. HIT & SUPPORT NANCE ANCE EQUIPMENT PROCEDUR	SERVICE FLIGHT MAINTE NANCE MANUAL
EST. MAN/HRS. REQ'D. TO ACCOMPLISH CHANGE IN SOURCE OF PARTS FOR KIT	····	*
Service Bulletin will be provided	AVAILABILITY	WEEKS AFTER APPROVAL
DISPOSITION OF SPARES AFFECTED		STAT
INITIATED BY :	APPROVED :	NRΦ 25>

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		Ci		را	<u> </u>				N
DATE 3	2 March 1964	A	FFECTS:			PR	OJECT	X	
	OF MAJOR COMPONENT	PART OR	LOWEST SUBASS	EMBLY	1	PART NO.	& MODI	EL OR	TYPE
TITLE O	PROPOSAL: REVISI	ED INS RA	CK INSTALLATI	ON					
NATURE	OF PROPOSAL:								
Desig	m, Fabricate & Instal	ll new IN	S Rack. Invo	lves Re	vi rin	g and Rep	lumbin	g of	Š
	ments. Installation								
9 1, 25 g 12 49	be accomplished in the		with service	kit for	airc	raft in t	he fie	eld.	\43g
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DA	TF ₂₀ November 1964	AFI	FECTS:		Б	PRC	DJECT X		RΦ 2 5X1
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TIT	LE OF PROPOSAL : OXYGEN S	YSTEM BALA	NCE VALVE					**************************************	
NA	TURE OF PROPOSAL:		——————————————————————————————————————					· · · · · · · · · · · · · · · · · · ·	-
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3.	The Balance Valve will Balance Valve will be r Installation cost is no	be install	ed in 12 ga	900119 030		system A- -18 Lox S	12 Airc	raft.	9 2
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DATE	12 March 1964	AFFE	стs:	K	PRC	DJECT 2	c 25
	OF MAJOR COMPONENT	PART OR LO	WEST SUBASSE	MBLY	PART NO. &	MODEL	OR TYPE
TITLE	OF PROPOSAL: Oxygen S	System Balan	ce Valve	•			
NATU	IRE OF PROPOSAL:						
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ES CP	ESTIMATED COST FOR KITS	S OR PARTS:	Page 2.)	•	_			9
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A. ECP 22-6-1 INCLUDES MODIFYING 26 "A" UNITS IN A-12'S, 24 "B" UNITS IN KC-135'S AND THE EQUIVALENT OF 5 UNITS FROM SPARES. SUGGEST FIRST SENTENCE BE REWORDED AS FOLLOWS:

"THIS ECP INCLUIES THE EFFORT REQUIRED TO MODIFY ALL OF THE AIRBORNE ARC-50 EQUIPMENT AND COMPONENTS, BOTH A-12 AND KC-135, TO THE "Y" CONFIGURATION."

B. ECP 22-32 - BECAUSE OF THE SHORTCOMINGS OF THE FIREWARNING SYSTEM
NOW BEING USED ON THE A-12, NUMEROUS PREMATURELY ABORTED FLIGHTS AND UNNECESSARY
ENGINE REMOVALS WERE INCURRED. THE RESPONSIBILITY FOR THESE ABORTS AND REMOVALS
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A SATISFACTORY FIREMARNING SYSTEM. THEREFORE WE FEEL THAT FROFIT, IF ANY, FOR THIS ECP IS SUBJECT TO FURTHER DISCUSSIONS.

* FIRM TARGET AND CEILING PRICE

*** BUDGET ESTIMATES

END OF MESSAGE

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3. FINAL TESTS TO BE	CONDUCTED NEXT WEEK.	WE WILL SUBM	IT	
SAMPLES FOR YOUR INSPECT	ION.			
4. E.C.P. NUMBER 22-	26 COVERING THIS HAS E	BEEN PREPARED,	AND	
IMPLEMENTATION WILL STAR	T NEXT WEEK.			
5. TESTS CONDUCTED TO	O DATE ON DESTRUCTION	OF WATER SOLUE	3LE	
MAPS INDICATE COMPLETE D				
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PAGE 2

BUT THAT SOME LARGE PIECES OF RESIDUE OFTEN REMAIN INTACT. EXAMINATION OF THESE PIECES, USING NATURAL, IR, AND UV LIGHT, FAIL TO PRODUCE READABLE OR OTHERWISE DISCERNABLE DATA, HOWEVER.

- WE PLAN A FEW MORE TESTS ON THIS EQUIPMENT NEXT WEEK. AND WILL SEND SAMPLES FOR YOUR INSPECTION, IF DESIRED.
 - 7. E.C.P. COVERING INSTALLATION IN VEHICLES IS IN PREPARATION.
- 8. OUR EFFORTS ON THE REQUIRED TAPE VOICE RECORDER TO DATE HAVE BEEN LIMITED TO A SEARCH FOR A SUITABLE UNIT AND CONSIDERATION OF LOCATION IN VEHICLE.

END OF MSG

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25X1	(IN 65171) SECRET PAGE TWO
•	WILL UTILIZE SPACE WHICH IS NOT AVAILABLE.
	C. AT PRESENT, UNDER NO CIRCUMSTANCES DOES THE MAP DESTRUCT
	SYSTEM COMPLETELY DESTROY THE MAPS.
25X1	NO SERIOUS EFFORT IS BEING PUT FORTH TO
	DEVELOP A DESTRUCT SYSTEM OR MAKE A DECISION WHETHER OR NOT
	DESTRUCTABLE MAPS SHOULD BE CARRIED ON THE AIRCRAFT. IF THE INTENT
· · 	IS NOT TO CARRY DESTRUCTABLE MAPS, THEN, FEELS
	THAT THE FILM DESTRUCT SYSTEM SHOULD BE ALSO DISCONTINUED. IF,
	HOWEVER, THE DECISION IS TO CARRY DESTRUCTABLE MAPS, THEN CONCERTED
	EFFORTS SHOULD BE PUT FORTH TO DEVELOP A NEW DESTRUCT METHOD OR
	ATTAIN A LEVEL OF RELIABILITY AND PERFORMANCE WHEREBY THE OLD
•	METHOD WOULD SATISFY THE REQUIREMENTS OF THE PROGRAM. YOUR
•	COMMENTS ARE REQUESTED.

END OF MESSAGE

SECRET.

OXC 4438 Copy 4 of

OFFB 1963

MEMORANDUM FOR:

Assistant Director, OSA

SUBJECT:

Water Destruct System for Special Paper Maps,

IDEALIST/OXCART

There is an obvious lack of priority assigned by Lockheed for the design and installation of the equipment required to utilize the special water soluble maps presently being produced

In compliance with a recommendation from General Doolittle, member of the President's Poreign Intelligence Advisory Board, a working group was established, on 9 August 1962, to provide projects IDEALIST and OXCART with maps and charts which are capable of emergency destruction. Attendance at this meeting included headquarters representatives from Operations, Development, Intelligence and Materiel. Outside agency representatives included and Lockheed.

Research and development work was completed by the Technical Services Division (TSD) to provide paper maps which will dissolve when submerged in water. The Materiel Division procured the necessary special paper is currently in production on particular series charts as specified by the Intelligence Staff. Completion of the entire production is estimated by 1 March 1963.

25X1

25X1

3. The IDEALIST/OXCART vehicles must be equipped with a map container and suitable water reservoir, plumbing, valves and activation device in order that the map container may be flooded with water if an emergency so dictates. This particular requirement, established 9 August 1962, has not proceeded concurrently with map production. Therefore, we will shortly be faced with completed water-soluble charts, but with no existing storage/destruct system available for their use. The result will be a delay in operational employment of the charts unless Lockheed is encouraged to complete their testing and installation of the necessary equipment. To date, two fiberglas prototype containers have been produced and temporarily taped in one of the ONCART vehicles. Two additional containers have

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BE REWORDED AS FOLLOWS:

"THIS ECP INCLUDES THE EFFORT REQUIRED TO MODIFY ALL OF THE AIRBORNE ARC-50 EQUIPMENT AND COMPONENES, POTH A-12 AND KC-135, TO THE "Y" CONFIGURATION."

B. ECP 22-32 - BECAUSE OF THE SHOKECOMINGS OF THE FIREWARNING SYSTEM NOW BEING USED ON THE A-12, NUMEROUS PREMATURELY ABORTED FLIGHTS AND UNNECESSARY ENGINE REMOVALS WERE INCURRED. THE RESPONSIBILITY FOR THESE ABORTS AND REMOVALS WOULD AFFEAR TO LIE WITH YOU WHO, IN THE FINAL ANALYSIS, ARE OBLIGATED TO PROVIDE

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C/CD/OSA RELEASING OFFICER

25X1

28 July 1964

25X1

John Parangosky To:

Bubject:

CT-22 BCP's WY '64 and WY '65

Reference: Letter CLJ to John P. dated 6 July 1964

Under a separate letter we are forwarding to you copies of ECP's 22-6-1, 22-7-1, 22-27, 22-28, 22-31, 22-32 and 22-48. You will note that these BCP's were listed in the referenced letter with different dollar values. The differences are due to better information and deletion of Article #133.

The attached revised ECP listing is being forwarded to you so that you will have the latest information available. Item 22-49 has been added as a result of the meeting last week at LAC.

Sincerely,		

STATUS LEGEND

A	•	ECP Submitted and Approved
В		ECP Submitted and Not Yet Approved
C		ECP Not Yet Submitted
D		Job Underway or Completed
E		Job Not Yet Started

6-30-64

BUDGETARY ESTIMATE

PRICE CEILING

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22-1-1			N/A		A & D	
22-2-1/		,	N/A		A & D	
22-3-1			N/A		A & D	
22-4-1			n/a		A & D	
22-5-1			N/A		A & D	
22-6-1	ARC-50 RE Improvements		N/A		A & D	
22-7-/	AEC-50 Ground Stations		N/A		A & D	
22-8-1	LOX Installation in #132 and #133 (See ECP)		N/A		A & D	
22-9-1 22-9-2	Lightning Tests - Rudder (See ECP) Added Lightning Tests - Nose Section (This will look at lightning effects on communications equipment in the nose section).		N/A N/A		A & D C & D	
22-10	Suit Venting Air System Regulator (See ECP)		N/A	116	A & D	
22-11	Oxygen System Balance Valve (See ECP)		N/A		A & D	
22-12 22-12-1 STAT	A-12 Parachute Improvement Program - Phase I (See ECP) A-12 Parachute Improvement Program - Phase II (This covers the equipment LAC is providing for El Centro tests, qualification of the steel LCO foot catapult, and LAC manpower to help conduct tests).		n/a n/a		A & D C & D	
22-13 22-13-1	A-12 Periscope Improvement - Forward Look Study (See ECP) Additional Periscope Work - Provide prototype Lens		n/a n/a	·	A & D C & D	
22-14	Revised I.N.S. Rack (See ECP)		N/A		A & D	
22-15	8.		N/A		A & D	
22-16	Oxygen System Low Pressure Warning Light (See ECP)		N/A		A & D	
22-17	Replace Control Stick Grips (See ECP)		18		A & D	
22-18	Retrofit of LOX System in A-12's (See ECP)		N/A		A & D	
22-19			17	•	A & D	
22-20			17		A & D	
22-21			17		A & D	
22-22			1		B & D	

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•	C	Approved For Release 20	002/08 : CIA-RDP69B00279R000100090001-5		177	6-30- Revised 7-28	-64 -64
	,					200	
		> /nocupy D01/Ai	BUDGETARY FIRM PRICE IT ESTIMATE TARGET GETLING L-	EM NO. ON 30-64 LIST	STATUS		
-	ECP NO.	TITLE/DESCRIPTION		22	C & D		STA
	22-23						
				22 .	C & E		
	22 - 24	Drag Chute Deploy Handle - (Replaces the switch which presently accomplishes		10	C & D		
		this job).		N/A	' C & D		
-	22 - 25	Aero-Med. Instrumentation Study - (Covers time to familiarize LAC personnel with equip- ment provided by HQ's, and run environmental tests on					
		pilot.		N/A	A & D		
·	22-26	Periscope Projector Film Destruct (See ECP)		N/A	B & D		
	22-27	Map Case Destruct - See ECP (Provides Map Cases and system required to destruct maps).		N/A	B & D		
• • •	22-28			M/A	• -		
				n/a	C & D		
	22-29	Pilot Voice Recorder - (Assumes that LAC will provide recorder . Voice recorder must have destruct capability).			0.1.7	**	
	22-30 *	Compressor Inlet Pressure Indicating System		2	C & E		
	22-31	SR-3 - Improved Gyro Heading Reference System - See I (This is a backup for the INS. Testing to be done	BC:	3	B & E		
		under Jet 250).		N/A	B & D	•	
	22-32	Improved Fire Warning System - See ECP (This system is sensitive to local overhead problems Sensing device is dual system requiring input from both parts in order to transmit warning to pilot. Sensing element made by Fenwall).	•				
	22-33	Structural Strength Increase Kits - (This includes provisions for some functional systems changes).		7	C & D		

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		STAT				
ECP NO	_	TITLE/DESCRIPTION	BUIGETARY ESTIMATE	FIRM PRICE TARGET CEILING	item no. on 4-30-64 list	STATUS
22-34	*				13	C & E
22-35	*	Fuel System Readout Improvement - (Provides additional probes for attitude problem).	J		n/a	C & B
22-36	*	Develop and Build Three (3) Airplane Control Servo System Checkout Carts			ļŧ	C & E
22-37	*	I.N.S. Improvements - LAC Airplane changes as result of Honeywell effort.			5	C & E
22-38	*	Hydrogen Engine Start Modifications - (LAC Airplane changes as result of P&W changes in engine start fuel).			6	C & E
22-39	*	New Servo Valves for Intersystem Leakage - (This incorporates R-12 type equipment into A-12's and eliminates need for reserve oil tank).			9	C & E
22-40	*	Dual Initiator Qualification Program			N/A .	C & E
22-41	*				15	
22-42	*					C & 19
22-43	*				N/A N/A	C & E
					N/A	C & E
22 - 144 +	*	Improve Pilot Fuel Control Capability - (Incorporates servo system to give pilot better ability to operate the fuel control system).			N/A	C & E
22-45	*	Enlarge Nitrogen System - (Increase the capacity of the nitrogen system to that required for the R-12. This will require a major modification to the nose wheel well).			n	C & E
22-46 *	ŧ	Fuel Remaining Instrumentation - (Provide a visual count down of the fuel quantity used. Present system will be retained).			12	C & E
22-47 *	+	Improvements to ARC-50 ADF Antennas			19	C & E
22-48		Retrofit ADP Inlet Control in Four (A) A-12's			N/A	
22-49		Fuel Menagement Revision			H/A	B & E
		FCP TOTALS				C & D
		* ECP number given for identification purposes only - su In general, the above ECP estimates do not include - su	02/08/16 : CIA-RI bject to revie	DP69B00279R00010009 w and change.,	0001-5	

16 March 1964

STAT	To: John Pars Subject: Transmit	angosky tal of Engineering Change Proposals -	- Contract CT-22	2
	of each of the following	th for your consideration and approve lowing change proposals: EILING PRICE NEGOTIATION:	PRICE	STAT
CTAT	ECP No.	<u>Title</u>	Proposed Ceil:	ing Price
STAT	22-1-1			
	22-2-1			
	-22-3-1			
	22-4-1			
	√22 - 5-1			
	~ 22-10	Suit Vent Air System Regulator	Ť	
	22-14	Revised INS Rack Installation		
	II. PROPOSED AS BU	DGETARY ITEMS		*
	ECP No.	<u> Title</u>	Budgetary	Estimate
	√22 -1 1	Oxygen System Balance Valve		
	22-12	Thinner, Lighter Parachute		
	22-13	Increased Forward Look Study - P	eriscope	
STAT	, 22-15			
			·	STAT
STAT	cc:	Incl copies of previously submitted ECP Nos. 22-6,22-7,22-8 and 22-9.		
			Kelly	

25X1 0 : DIRECTOR ROM: COMMO 12 RB 5 " 13 6 DF 9 14 7 0x C 15 8 MD 16 ROUTINE NFO : 25X1 25X1 TOR: 2222Z 11 DEC 64 IN 62238	-		NFO	4.**		CITE			25X
5 " 13 6 DF H 14 7 0 X C 15 8 PM D 16 ROW: ROW: ROW: ROW: ROUTINE	25X1 25X1	2222Z 11 DEC 64	OST	9)-/5	•	in	52238	
5 " 13 6 DF H 14		ļ.			And the second	ROUTINE			
5 7 13		RECTOR	-100			7 07 4	AND REAL PROPERTY OF THE PARTY NAMED IN COLUMN 2 IN CO		
CONTRACTOR OF TANKEN PROPERTY AND THE PROPERTY OF THE PROPERTY	25X1	some - name ar size - Sayme Village - an and a plant purpose of a majority community of a company of a compan	-th-particle plant decrease announcement for the decrease of t			5 "	13	162	
SECRET 1 DEC 64 SECRET 1 DTCCH 9 CD 10 DD 50 T	-	11 DEC 64	SE	CRE		2 /	10	DDSJ	

SUBJECT: VOICE RECORDER

- 1. TESTS ON SEVERAL SMALL MAGNETIC TAPE RECORDERS HAVE LED TO THE SELECTION OF THE NO. 7450-511-7797 DICTAPHONE PORTABLE TAPE RECORDER, DICTETTE. THIS SELECTION WAS BASED ON SUCH FACTORS AS DURABILITY IN THE ANTICIPATED ENVIRONMENT, ADAPTABILITY TO THIS SPECIFIC USE, PERFORMANCE, AVAILABILITY AND COST.
- 2. THIS IS A RUGGED AND WELL BUILT UNIT, AND HAS BEEN USED WITH SUCCESS IN THE FLIGHT TEST PROGRAM.
- 3. MINOR MODIFICATIONS TO THE PRODUCTION UNIT ARE REQUIRED TO PERMIT ITS USE IN THIS APPLICATION. THESE MODIFICATIONS INCLUDE:
- A. REWIND TAPE MAGAZINES WITH 1/2 MIL MYLAR TAPE IN LIEU OF STANDARD 1 MIL TAPE. THIS DOUBLES NORMAL CAPACITY, CHANGING IT FROM 20 TO 40 MINUTES.
- B. ADJUST TAPE DRIVE MOTOR GOVERNOR SPEED. THIS INCREASES CAPACITY TO ONE HOUR. ANOTHER MODIFICATION, A CHANGE IN THE MOTOR GEARING, HAS PERMITTED A FURTHER TIME EXTENSION TO

 1.25 HOURS, BUT DEGRADATION OF QUALITY IS THEN APPARENT SO

SECRET

GROUP 2 ENGLULED FROM AUTO-MATIO DOWNGHADING AND GEGLASSIFICATION

25X1			
	(IN 62238)	SECRET	PAGE TWO

THIS IS NOT RECOMMENDED.

- C. ADAPT UNIT TO OPERATION FROM AIRCRAFT'S 28 VDC POWER,
 ELIMINATING THE CONTAINED BATTERY. THE CAPACITY OF THE BATTERY IS NOT
 COMPATIBLE WITH THE INCREASED TAPE CAPACITY. IN ADDITION,
 THE CHANGE IN BATTERY CONDITION THROUGHOUT ITS USEFUL LIFE
 INTRODUCES A CHANGE IN TAPE DRIVE MOTOR SPEED, WITH RESULTANT
 DISTORTION.
- 4. ONE RECORDER HAS BEEN SO MODIFIED. A MULTI-CONDUCTOR CABLE HAS ALREADY BEEN ADDED TO PERMIT PLUGGING IT INTO ALL AIRCRAFT AS PART OF THE AUDIO CLEAN-UP BULLETIN.
- 5. THIS MODIFIED RECORDER HAS BEEN FLIGHT TESTED AND IS DEEMED TO BE SATISFACTORY. IN THE FLIGHT TEST PROGRAM WE HAVE BEEN RECORDING ALL RADIO TRANSMISSIONS AS WELL AS INTERPHONE TALK. THE RECORDER HAS BEEN TRIGGERED BY OPERATING THE MIKE BUTTON. SO USED, DATA FROM A 1.25 HOUR FLIGHT OCCUPIED ABOUT 10 MINUTES OF TAPE TIME. WE PLAN TO ADD ANOTHER SWITCH FOR OPERATIONAL USE THAT WILL PERMIT THE PILOT TO SELECT USE OF THE RECORDER AT WILL. THIS SHOULD PROVIDE A STILL BETTER RATIO OF FLIGHT TIME TO RECORD TIME.
- 6. EARLIER TESTS ON A VOICE OPEPATED RELAY RESULTED IN ABANDONING USE OF THIS DEVICE BECAUSE THE TRIEGER LEVEL COULD NOT BE REDUCED TO BELOW THE NOISE THRESHOLD LEVEL OF THE OXYGEN BREATHING EQUIPMENT.
- 7. TAPE DESTRUCT TESTS HAVE BEFN CONDUCTED, USING A TAPE MAGAZINE IN WHICH THE TAPE IS WOUND BETWEFN TWO PLATES OF PYROFUSE FOIL.

 WHEN ACTUATED ELECTRICALLY, THERMO-CHEMICAL ACTION OF THE FOIL

 BURN WITH HIGH HEAT AND MELTS THE TAPE.

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	(IN 62233)	SECRET	PAGE	THREE
SUFFICIENT	THICKNESS, TO	ACHIEVE 100	PERCENT DES	TRUCTION IN
THE MAGAZIN	E HAS NOT BEEN FULLY	SUCCESSFUL B	ECAUSE BURN	ING CANNOT
BE SUSTAINE	D FROM A SINGLE SQUIB	. WE ARE CU	RRENTLY CON	DUCTING
TESTS USING	A LAMINATE OF	EA	CH LAYER BE	ING IGNITED
SEPARATELY.	WHEN WE ARE SATISIF	TED THAT WE	HAVE A SATI	SFACTORY
DESTRUCT SY	STEM, WE PLAN TO SACR	IFICE ONE DI	CTETTE TO D	ETERM INE
ITS HEAT SI	NK CHARACTERISTICS AN	D TO ESTABLI	SH THE EXTE	INT OF
PROBABLE DA	MAGE TO SURROUNDING S	TRUCTURE SHO	ULD THIS BE	1
TRIGGERED A	CCIDENTALLY.			

9. DICTETTES ARE READILY AVAILABLE FROM A LOCAL SOURCE.

END OF MESSAGE

SECRET

Next 10 Page(s) In Document Exempt

Approved For Release 2002/08/16 : CIA-RDP69B00279R000100090001-5

3 December 1964

To:

Contracting Officer - Contract CT-22

Subject:

TRANSMITTAL OF ENGINEERING CHANGE PROPOSALS

Transmitted herewith for your consideration and approval are four (4) copies of the following Change Proposals. These ECP's are proposed on a Target/ Ceiling Price basis.

	ECP	m	Contract CT-22 ECP	Estimated Related Program Costs	Estimated Total	STAT
	No.	Title	Ceiling Price	(Other Contracts)	Program Costs	
	22-7-2	ARC-50 Ground Stations				
	22-9-2	Lightning Tests				
	22-11-1	Oxygen Balance Valve				
	22-12-1	A-12 Parachute Program				
	22-13-1	Periscope Improvements				
STAT	22 - 23					
	22 - 24	Drag Chute Deploy Handle	<u> </u>			
	22-27-1	Map Case Destruct System	ı			

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cc:		
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	Approved For Release 2002	/08/16 · CIΔ-RDP69B00279R000100090001-5

Approved For Release 2002/08/16: CIA-RDP69B00279R000100090001-5

2 December 1964

To:

Contracting Officer, Contract CT-22

Subject:

TRANSMITTAL OF ENGINEERING CHANGE PROPOSALS

Transmitted herewith for your consideration and approval are four (4) copies of the following Change Proposals. These ECP's are proposed as budgetary items.

STAT

	ECP No.	Title	Contract CT-22 ECP Budgetary Estimate	Estimated Related Program Costs (Other Contracts)	Estimated Total Program Costs
	22-30	Compressor Inlet Pressure Indicating System			
7.	22-35	All Attitude Fuel Quantity System			
	22-36	Airplane Control System Checkout Carts			
	22-43				
	22-49	Fuel Management Revision			
	22-58	Oil Pressure Transmitter			
	22_62	AF-12 Seat and Parachute Revision (Previously sent t Temp with letter from Rus)	50 \		
·.	22-63	Fuel Cooler (Previously ser to John with letter from Ke	nt elly)		
	22-64	Fuel Qty. Mod.to KC-135's			
	22-65	ARC-50 Mod. to KC-135's			
	22-66	Alternate Steering for AF-	12's		

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Approved For Release 2002/08/16: CIA-RD P69B00279R000100090001-5

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3 December 1964

To:

Contracting Officer - Contract CT-22

STAT

Subject:

TRANSMITTAL OF ENGINEERING CHANGE PROPOSALS

Transmitted herewith for your consideration and approval are four (4) copies of the following Change Proposals. These ECP's are proposed on a Target/ Ceiling Price basis.

ECP No.	Title	Contract CT-22 ECP Ceiling Price	Estimated Related Program Costs (Other Contracts)	Estimated Total Program Costs
22-7-2	ARC-50 Ground Stations			
22-9-2	Lightning Tests			
22-11-1	Oxygen Balance Valve			
22-12-1	A-12 Parachute Program			
22-13-1	Periscope Improvements			
22-23				
22-24	Drag Chute Deploy Handle	•		
22-27-1	Map Case Destruct System	1		
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Approved For Release 2002/08/16: CIA-RDP69B00279R000100090001-5

OSA -5535-64

2 December 1964

To:

Contracting Officer, Contract CT-22

Subject:

TRANSMITTAL OF ENGINEERING CHANGE PROPOSALS

Transmitted herewith for your consideration and approval are four (4) copies of the following Change Proposals. These ECP's are proposed as budgetary items.

STAT

				Contract CT-22 ECP Budgetary	Estimated Related Program Costs	Estimated Total
STAT		ECP No.	Title	Estimate	(Other Contracts)	Program Costs
		22-30	Compressor Inlet Pressure Indicating System			
	7.	22-35	All Attitude Fuel Quantity System			
		22-36	Airplane Control System Checkout Carts			
STAT		22-43				
		22-49	Fuel Management Revision			
÷		22-58	Oil Pressure Transmitter			
		22-62	AF-12 Seat and Parachute Revision (Previously sent to Temp with letter from Rus)			
÷		22-63	Fuel Cooler (Previously sent to John with letter from Kel			
		22-64	Fuel Qty. Mod.to KC-135's			
		22-65	ARC-50 Mod. to KC-135's			
		22-66	Alternate Steering for AF-12	2¹s		

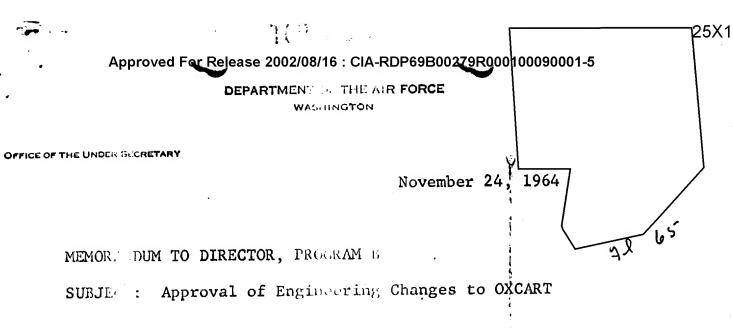
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As Director of Program B, you are responsible for reviewing all ECP's and ECO's prior to approval or disapproval determinations. Because of the importance of the control of engineering changes at this stage of the OXCART program, I desire that you modify your existing procedures so the I may have an opportunity to review all major ECP/Foo's being considered. Effective immediately, any of angle order estimated to exceed a total cost of NRO 25X1 plies to the Lockheed contracts will require my NRO 25X1 appro al before execution. All changes will amtinue to be approved under your personal authority. I request that you do not delegate this authority any furth ...

proposed changes requiring my approval will be submitted as necessary and should include the results of your review together with your recommendations for approval or disapproval. In addition, require that you report to me all changes which you have approved and on a reasonably current basis.

25X1

Brockway McMillan
Director
National Reconnaissance Office

25X1

25X1

Approved For Release 2002/08/16: CIA-RDP69B00279R0001000900015

Approved For Release 2002/08/16: CIA-RDP69B00279R000100090001-5

8 January 1964

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To: John Parangosky

Subject:

Transmittal of Budgetary Engineering Change Proposals

Contract CT-22

Transmitted herewith for your consideration and preliminary approval are two copies each of the following engineering change proposals:

STAT

		•
ECP No.	<u>Title</u>	Budgetary Estimate
22-1		
22-2		
22-3		
22 - 4		
22 - 5		
22 - 6		
22 - 7	ARC-50 DME Improvement	
22 - 8	L.O.X. Installation in #132 & #133	
22-9	Lightning Tests	
ECP Totals		

Our effort on these ECP's is being charged to Contract CT-22. You will appreciate that these are all budgetary estimates which we will finalize as soon as the scope of effort can be determined.

We deem it advisable to prepare these preliminary ECP's in a very brief form to afford you and your staff the opportunity to remain knowledgeable of the numerous special packages in process and of the "ball park" cost involved.

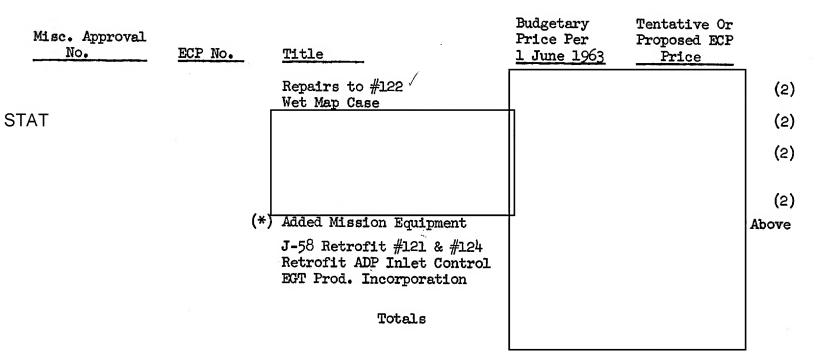
Many of these installations are being installed in airplane #131. We propose to accomplish the necessary flight test of these packages against Contract FT-21.

Very truly yours,	NRO	25X1

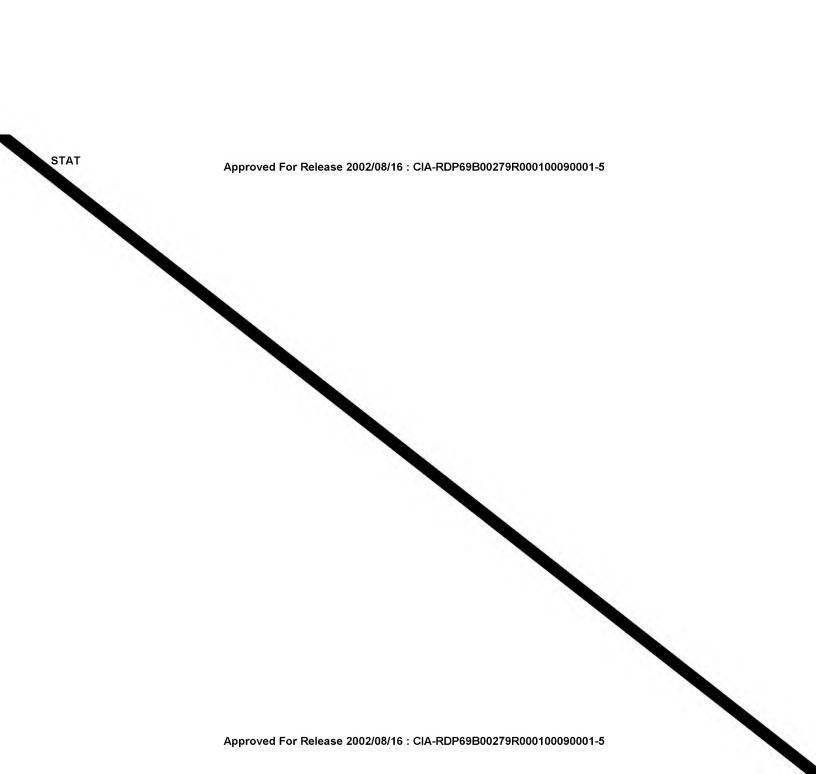
Next 1 Page(s) In Document Exempt

STAT

Summary Of DK-3559 ECP's To Be Negotiated (Cont'd)



- (1) Already submitted.
- (2) Work already started on verbal approval or otherwise.



been forwarded to Edwards AFB for use in IDEALIST vehicles. This initial test work is not being agressively pursued by Lockheed and indications are that final system installation is in the distant future.

4. Operational training is highly desirable in the use of both the maps (changes in format) and storage/destruct systems prior to operational employment. ONCART programming indicates the systems should be installed at once in Aircraft 124, 122, and 125. IDEALIST use can commence as soon as the systems are installed on a retrofit basis.

establish the necessary prior completion of this project.	nat the Development Division rity with Lockheed to accomplish It is further recommended that
on the progress in this regard Assistant Director, OSA, is a	ed to monitor and report weekly concurrence of the requested.

Chief, Operations Division, OSA

25X1

25X1

CONCUR: 25X1 JACK C. LEDFORD 8 FEB 1963 Colonel Assistant Director (Special Activities) 25X1 OSA/OD/OXC/ (6 February 1963) Distribution: #1 - OSA/C/OD#2 - AD/OSA#3 - OSA/C/DD #5 - OSA/C/CD #5 - OSA/OD/IDEA #6 - OSA/OD/ONG #7 - OSA/OD/GNC (Chrono)

#8 - OSA/RB

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Approved For Release 2002/08/16: CIA-RDP69B00279R400100090001-5

Appear of contains information to Project UASART

OKC-4259-62 Capy 7 of 9

11 December 1962

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MEMORANDUM FOR THE RECORD

SUBJECT: OXCART Charts

OFVANDO

25X TIVIN					
	held in the office of AFCIN-1, on 10 December.				
25X1NRC	Those in attendance were: AFCIN-1; Lt. Colone				
5X1	AFCIG- \AFCIN-1C4;				
	CIA ACIC; and				
5X1	CIA.				
	2. The meeting was concerned with working out problems connected with printing certain JN charts for the CXCART Project. A comprehensive review of the problems and requirements was achieved, with the following results:				
,	(a) ACIC will be given authorization to print the required charts and will further be authorized to contract out normal chart printing that otherwise would occupy the presses.				
25X1					

- (c) A target date of 1 April 1963 was established as being the goal for delivery of the water-soluble charts, predicted on a 1 February delivery of the paper to ACIC.
- (d) A target date of I February 1963 was established as the date for delivery of certain ZI JN charts, printed on regular stock in the celor format to be employed on the soluble charts, for pilot training and familiarization.

Approved For Release 2002/08/160 6/A-RDP69B00279R000100090001-5

OX G-4259-62 Page 2

3. Memoranda to ACIC, through AFCIG-5 and AFCIN, will be prepared shortly, establishing definitive requirements for printing, both for training charts and soluble charts.

SIGNED	>/
	25X1
Intelligence Staff/OSA	

Distribution:

Cy 1 -- AD/GSA

Cy 2 -- OD/GSA

Cy 3 -- DD/OSA

Cy 4 -- OXCART Branch/OSA

Cy 5 -- 58/OSA

Cy 6 -- Materiel/OSA

Cy 7 -- Contracts/OSA

Cy 8 -- Intel/CSA

Cy 9 -- RI/OSA

OXC 4226 Copy 3 of 9

5 DEC 1962

MEMORANDUM FOR: Assistant Director, OSA

SUBJECT:

Water Soluble Maps

- 1. This memorandum contains recommendations for the approval of the Assistant Director, OSA. Such recommendations are contained in paragraph 5.
- 2. This status report relates to the development progress of the water soluble map program.
 - a. The initial test production at ACIC has been completed and samples of the JN-47 have been provided field activities at Edwards Air Force Base Since Lockheed has not completed the aircraft installation to receive these water soluble maps, present field tests will be restricted to handling qualities and format only. It is estimated that the Lockheed systems will be installed in both type aircraft no earlier than 1 February 1963.
 - b. It is planned to proceed with ACIC production of 33 JN charts and 6 GNC charts which cover the Eurasian land mass. The following planning factors have been provided in connection with this production:
 - (1) Initial production can commence 15 January 1963.
 - (2) Total production time sixty days.
 - (3) Production cost approximately
- 3. Procurement action has been initiated to purchase 16,000 sheets of paper to be delivered approximately 15 January 1963 cost approximately
- 4. Due to the long lead time of ACIC chart production it seems wise to proceed with that phase of this program

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even though field functional tests have not been performed. Continued emphasis will be placed upon the Lockheed proposal and production of the map case and associated water system.

- It is recommended that the following tasks to be accomplished be approved:
 - Complete procurement action on the special paper (OSA/MD).
 - b. Attend AFCIN scheduling meeting 10 December 1962 to assure ACIC production (OSA/OD, OSA/INTEL, and AFCIG-5).
 - c. Approve expenditure of funds for this program (AD/OSA).
 - Encourage Lockheed to expedite system installation in U-2 and A-12 (DD/OSA).

25X1 Chief, uperations Division, OSA

The recommendations contained in paragraph 5 are approved:

ENFR

5 DEC 1962

JACK C. LEDFORD Colonel USAF Assistant Director (Special Activities)

OSA/OD/OXC/ (5 Dec 62) Distribution:

#1 - OSA/C/OD

#2 - AD/OSA

13 - OSA/OD/OXC OSA/CD

#4 - OSA/OD/OXC (Chrono)

#5 - OSA/OD/IDEA

46 - 08A/MD

#7 - OSA/DD

#8 - OSA/INTEL

#9 - OSA/RB

#10 - OSA/OD/OXC

25X1